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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,991	07/10/2003	Cheol-Jin Park	Q75619	1227
23373	7590	06/30/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			NGUYEN, TUYEN T	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/615,991	Applicant(s) PARK, CHEOL-JIN	
	Examiner TUYEN T. NGUYEN	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoang [US 5,446,958]

Hoang discloses an apparatus for fixing a bobbin [figure 9] to a printed circuit board [9] for use in a transformer, around an upper portion of the bobbin being around an upper portion of the bobbin being wound a coil, a lower portion of the bobbin being provided with a plurality of pins [3] connected to an end of the coil and connected to the printed circuit board of an electronic product, the apparatus for fixing the bobbin to the printed circuit board comprising:

a receiving hole [91] formed in the printed circuit board, a size of which is minutely larger than that of the bobbin to hold the bobbin; and

a plurality of horizontal support portions [figure 9] formed at the pins of the bobbin in parallel relation to an upper surface of the printed circuit board, for allowing the bobbin to be supported on the upper surface of the printed circuit board when the bobbin is inserted into the receiving hole.

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wherein a radially inner face of the receiving hole [91] and a radially outer face of the bobbin adjacent to the radially inner face of the receiving hole are perpendicular to the upper surface of the printed circuit board throughout a total thickness of the circuit board [figure 9].

Regarding claim 4, Hoang inherently discloses that the horizontal support portions providing support for the entire weight of the bobbin on the printed circuit board.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoang in view of Kataja [US 2002/0057029 A1].

Hoang discloses the instant claimed invention except for a fixing portion extending from the horizontal support portion in a perpendicular relation to the upper surface of the printed circuit board.

Kataja discloses an apparatus for fixing a bobbin [1, 5] to a printed circuit board [6] for use in a transformer, around an upper portion of the bobbin being around an upper portion of the bobbin being wound a coil, a lower portion of the bobbin being provided with a plurality of pins [2] connected to an end of the coil and connected to the printed circuit board of an electronic product, the apparatus for fixing the bobbin to the printed circuit board comprising:

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a receiving hole [figures 1 and 3-4] formed in the printed circuit board, a size of which is minutely larger than that of the bobbin to hold the bobbin; and

a plurality of horizontal support portions [figure 3] formed at the pins of the bobbin in parallel relation to an upper surface of the printed circuit board, for allowing the bobbin to be supported on the upper surface of the printed circuit board when the bobbin is inserted into the receiving hole.

Kataja further discloses a fixing portion [4] extending from the horizontal support portion in a perpendicular relation to the upper surface of the printed circuit board so that the pins are inserted into an opening formed in the printed circuit board.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to include fixing portions extending from the horizontal portions in a perpendicular relation to the upper surface of the printed circuit board for the bobbin of Hoang, as suggested by Kataja, for the purpose of providing additional support and connections.

Claims 7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoang in view of Honma [US 6,175,295].

Hoang discloses a transformer [figure 9] comprising:

- a printed circuit board [9] having a receiving hole [91] and an upper surface;
- a bobbin inserted into the receiving hole of the printed circuit board, the bobbin comprising a winding axis around which is wound a coil, a lower portion at one end of the winding axis and a plurality of pins [3] connected at the lower portion, each pin comprising a horizontal support portion that extends in parallel contact with the upper surface of the printed circuit board.

wherein a radially inner face of the receiving hole [91] and a radially outer face of the bobbin adjacent to the radially inner face of the receiving hole are perpendicular to the upper surface of the printed circuit board throughout a total thickness of the circuit board [figure 9].

Hoang inherently discloses that the horizontal support portions providing support for the entire weight of the bobbin on the printed circuit board.

Hoang discloses the instant claimed invention except for the winding axis being perpendicular to the upper surface of the printed circuit board.

Honma discloses a bobbin structure [figure 1] of a transformer for mounting on a printed circuit board comprising a winding axis around which is wound a coil and a plurality of pins [9], wherein the winding axis being perpendicular to the upper surface of the printed circuit board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the winding axis design of Honma in Hoang for the purpose of facilitating mounting and reducing projected area.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoang in view of Honma as applied to claim 7 above, and further in view of Kataja.

Hoang in view of Honma discloses the instant claimed invention except for a fixing portion extending from the horizontal support portion in a perpendicular relation to the upper surface of the printed circuit board.

Kataja discloses an apparatus for fixing a bobbin [1, 5] to a printed circuit board [6] for use in a transformer, around an upper portion of the bobbin being around an upper portion of the bobbin being wound a coil, a lower portion of the bobbin being provided with a plurality of pins

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[2] connected to an end of the coil and connected to the printed circuit board of an electronic product, the apparatus for fixing the bobbin to the printed circuit board comprising:

a receiving hole [figures 1 and 3-4] formed in the printed circuit board, a size of which is minutely larger than that of the bobbin to hold the bobbin; and

a plurality of horizontal support portions [figure 3] formed at the pins of the bobbin in parallel relation to an upper surface of the printed circuit board, for allowing the bobbin to be supported on the upper surface of the printed circuit board when the bobbin is inserted into the receiving hole.

Kataja further discloses a fixing portion [4] extending from the horizontal support portion in a perpendicular relation to the upper surface of the printed circuit board so that the pins are inserted into an opening formed in the printed circuit board.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to include fixing portions extending from the horizontal portions in a perpendicular relation to the upper surface of the printed circuit board for the bobbin of Hoang, as modified, as suggested by Kataja, for the purpose of providing additional support and connections.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUYEN T. NGUYEN whose telephone number is 571-272-1996. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ELVIN ENAD can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTN *TTN*

Tuyen T. Nguyen